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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,408	10/21/2003	Nicolay Y. Kovarsky	008451/CMP/ECP	7371
44257	7590	02/23/2006	EXAMINER	
PATTERSON & SHERIDAN, LLP 3040 POST OAK BOULEVARD, SUITE 1500 HOUSTON, TX 77056			WILKINS III, HARRY D	
			ART UNIT	PAPER NUMBER

1742

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/690,408	Applicant(s) KOVARSKY ET AL.	
	Examiner Harry D. Wilkins, III	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
 4a) Of the above claim(s) 11-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 36 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/2/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-10 and 36, drawn to an apparatus for dispensing a chemical reagent, classified in class 204, subclass 234.
 - II. Claims 11-19, drawn to an apparatus for dispersing a chemical reagent, classified in class 204, subclass 234.
 - III. Claims 20-30, drawn to a method of replenishing copper, classified in class 205, subclass 101.
 - IV. Claims 31-35, drawn to a method of monitoring and controlling a pH, classified in class 205, subclass 101.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions have different designs and modes of operation, the first using horizontal flow of solution and the second using vertical flow of solution. The two inventions are not disclosed as capable of use together.
3. Inventions III and IV are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination

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is separately usable. In the instant case, subcombination III has separate utility such as uncontrolled replenishment of copper in the plating solution. See MPEP § 806.05(d).

4. Inventions III and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process such as dissolving of table salt (NaCl) in a flowing solution.

5. Inventions IV and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process such as dissolving of table salt (NaCl) in a flowing solution.

6. Inventions III and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process such as dissolving of table salt (NaCl) in a flowing solution.

7. Inventions IV and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be

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practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process such as dissolving of table salt (NaCl) in a flowing solution.

8. Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

9. During a telephone conversation with Todd Patterson on 17 February 2006 a provisional election was made with traverse to prosecute the invention of group I, claims 1-10 and 36. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-35 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

10. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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12. Claims 1-4, 9 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Wartman (US 3,820,557).

Wartman anticipates the invention as claimed. Wartman teaches (see figures 1 and 2) an apparatus for dispensing a chemical reagent including a tank (16), a vessel (11) in fluid communication with the tank, wherein the vessel has an inlet and an outlet and at least one horizontal shelf (13) contained inside the vessel, wherein the shelves were positioned to hold the chemical reagent and expose the chemical reagent to the solution flowing from the inlet to the outlet.

With respect to the recitation of a "plating solution", this limitation is considered to be related to the intended use of the claimed structure. It has been held that apparatus claims are limited by their structure, not by the intended use of the claimed structure. See MPEP 2113.

Regarding claim 2, the shelves were impermeable to the solution.

Regarding claim 3, as above, the limitation relating to the solution utilized in the apparatus is not given patentable weight because it is related to the intended use of the claimed structure.

Regarding claim 4, there is a "headspace" disposed above the shelves.

Regarding claim 9, the shelves were flat shelves.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 5-7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wartman (US 3,820,557).

Regarding claim 5, it would have been obvious to one of ordinary skill in the art to have adjusted the size of the headspace of the vessel to adapt it for use with other chemistries. See MPEP 2144.04.IV.A.

Regarding claim 6, the solution flows from the inlet to the outlet via the headspace disposed above each shelf.

Regarding claim 7, the solution is replenished with the chemical reagent by the vessel.

Regarding claim 9, as above, Wartman teaches using flat shelves. However, it would have been obvious to one of ordinary skill in the art to have utilized different shapes of shelves, such as a longitudinally grooved shelf or a tubular shelf in order to have ensured proper holding of the chemical reagent. See MPEP 2144.04.IV.B.

Regarding claim 10, it would have been obvious to one of ordinary skill in the art to have placed a filter at the end of the vessel in order to have prevented any particulate chemical reagent from passing downstream.

15. Claims 1-10 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ting et al (US 5,997,712) in view of Wartman (US 3,820,557).

Ting et al teach an apparatus for dispensing a chemical reagent into a plating solution including a tank (11) for containing the plating solution and a vessel (13) in fluid communication with the tank, wherein the vessel had an inlet and an outlet.

Ting et al fail to teach that the vessel included at least one horizontal shelf, wherein the at least one shelf was positioned to hold the chemical reagent.

Wartman teaches (see figures 1 and 2) a vessel for dissolving a chemical reagent into a flow of solution, wherein the vessel included a plurality of impermeable horizontal shelves that held the chemical reagent for exposure to the solution flowing from the inlet of the vessel to the outlet of the vessel. The multitude of horizontal shelves had the advantage of increasing surface area contact while having low hydrodynamic resistance (see col. 6, lines 5-9).

Therefore, it would have been obvious to one of ordinary skill in the art to have substituted the dissolver of Wartman for the dissolver of Ting et al because the dissolver of Wartman provided increased surface area contact while having low hydrodynamic resistance.

Regarding claim 2, the shelves were impermeable to the solution.

Regarding claim 3, as above, the limitation relating to the solution utilized in the apparatus is not given patentable weight because it is related to the intended use of the claimed structure.

Regarding claim 4, there is a "headspace" disposed above the shelves.

Regarding claim 5, it would have been obvious to one of ordinary skill in the art to have adjusted the size of the headspace of the vessel to adapt it for use with other chemistries. See MPEP 2144.04.IV.A.

Regarding claim 6, the solution flows from the inlet to the outlet via the headspace disposed above each shelf.

Regarding claim 7, the solution is replenished with the chemical reagent by the vessel.

Regarding claim 8, Ting et al teach (see col. 2, lines 18-24) using copper oxide or copper hydroxide.

Regarding claim 9, the shelves were flat shelves. Additionally, it would have been obvious to one of ordinary skill in the art to have utilized different shapes of shelves, such as a longitudinally grooved shelf or a tubular shelf in order to have ensured proper holding of the chemical reagent. See MPEP 2144.04.IV.B.

Regarding claim 10, Ting et al teach (see abstract) including a filter in the vessel.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry D. Wilkins, III whose telephone number is 571-272-1251. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Harry D Wilkins, III
Examiner
Art Unit 1742

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